

Remarks

Rejections Under 35 U.S.C. §102(b)

Claims 1, 4, 5, 12, 13 and 20 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,193,721 of Michelson.

The Michelson patent describes a plurality of anterior cervical plates which are provided with locking mechanisms by which a plurality of bone screws may be locked in place with one locking element. In every embodiment of this type described in the Michelson patent, the locking mechanism is generally circular and has two, three or four notches in its periphery that allow clearance for bone screws to be installed in adjacent bone screw receiving holes. Each locking mechanism is mounted to the anterior cervical plate in such a manner as to be pivotable about a central axis. Furthermore, each locking mechanism in the Michelson assembly includes an aperture that is adapted to receive a driving tool for grasping and pivoting the locking mechanism, and each such aperture for grasping and pivoting the locking element is axially aligned with the pivot axis. In contrast, Applicant's invention, as described in claims 1, 4, 5 and 12, requires an elongated locking element which includes means offset from the pivot axis for grasping and pivoting the locking element.

With respect to claims 13 and 20, the Office Action states that the Michelson patent "discloses a device having at least one tool opening (24/27) for receiving a tool to turn the locking element and a positive positioning structure (220) to positively position the

element in a second position." However, item (220) of the Michelson patent is a driving tool that is adapted to be received in the tool opening (24/27) for turning the Michelson locking element. In contrast, Applicant's claims 13 and 20, as amended, require that the positive positioning structure holds the locking element in the second position. This is consistent with Applicant's specification, which makes clear that the positive positioning structure of Applicant's claimed anterior cervical plate is not the driving tool that turns the locking element to the second position.

Since there is nothing in the Michelson patent which discloses or suggests a cervical plate having an elongated locking element which includes means offset from the pivot axis for grasping and pivoting the locking element, as required by Applicant's claims 1, 4, 5 and 12, these claims are not anticipated by the Michelson patent. Furthermore, since there is nothing in the Michelson patent which discloses or suggests a cervical plate having a positive positioning structure that holds the locking element in the second position, as required by Applicant's claims 13 and 20, as amended, these claims are also not anticipated by the Michelson patent. Applicant respectfully requests, therefore, that this §102(b) rejection of his claims be withdrawn, and that claims 1, 4, 5 and 12, and claims 13 and 20, as amended, be allowed.

Rejections Under 35 U.S.C. §103(a)

Claims 2, 3, 18 and 19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,193,721 of Michelson in view of U.S. Patent No. 6,224,602 of Hayes.

The Michelson patent is described above. U.S. Patent No. 6,224,602 of Hayes describes a bone plate assembly which includes a fixation plate (12) and a locking plate (40). The fixation plate includes a plurality of holes (18) which are adapted to receive bone screws, and the locking plate has a sliding dovetail connection with a channel (30) of the fixation plate. The locking plate includes a plurality of notches (70) which align with the bone screw holes in the fixation plate when the locking plate is in a first position, and the locking plate may be slid to a second position in which a portion of the locking plate overlaps the bone screw openings to prevent the bone screws from backing out. The locking plate also includes a slot (50) which is adapted to receive the head of a lock screw (60) that is threaded into a recess (62) in the fixation plate. One end of the slot provides a positive stop defining the first (unlocked) position, and the other end of the slot provides a positive stop defining the second (locked) position. The second end of the slot includes a countersink (54) which allows the lock screw to be tightened flush to the top surface of the locking plate.

The Office Action states that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Michelson having at least a raised boss element that allows for both a pivoting, or secure fit when needed in view of Hayes ...", referring to the lock screw (60) of Hayes as a locking element capable of functioning as a boss. However, no elongated locking element is mounted on the Hayes device and no combination of the Hayes and Michelson references teaches, suggests or renders obvious a cervical plate having an elongated locking element which includes an opening that is pivotally mounted on a raised boss, as required by Applicant's claims 2 and 3, and 18 and 19, as amended. Furthermore, there is nothing in either the Michelson or the

Hayes patents which discloses, suggests or renders obvious a cervical plate having an elongated locking element which includes means offset from the pivot axis for grasping and pivoting the locking element, as required by Applicant's claims 2 and 3. Applicant suggests that a person having ordinary skill in the art to which the invention relates would find it difficult (and therefore, not obvious) to combine the sliding locking feature of Hayes with the pivoting locking feature of Michelson. However, even if such a combination of the Hayes and Michelson patents were made which employed the Hayes lock screw (60) as a boss for mounting of a pivoting locking element, the resulting cervical plate would nevertheless employ the generally circular locking element of Michelson. Such a combination would not function as does Applicant's claimed cervical plate of claims 2 and 3, and 18 and 19, as amended, and consequently, Applicant's claimed cervical plate would not be an obvious variant thereof. Applicant respectfully requests, therefore, that this §103(a) rejection of his claims be withdrawn, and that claims 2 and 3, and claims 18 and 19, as amended, be allowed.

Claims 6-11 and 14-17 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,193,721 of Michelson in view of U.S. Patent No. 5,439,472 of Evans et al.

The Michelson patent is described above. U.S. Patent No. 5,439,472 of Evans et al. describes a surgical saw having a chuck-mounted blade. The chuck (11) includes facing tip and bottom casing members (50) and (51). Bottom casing member (51) is attached to shaft (31). The chuck has a slot (55) formed by groove (56) extending centrally in the bottom

face (60) of the top member, which slot is adapted to receive the rear portion of blade (12). The groove has sidewalls (62) and a central flat (61) which is depressed from but parallel to the plane of bottom face (60). A pair of pins (63) are fixed to the central flat of the groove and extend about half the depth of the slot (55). A hole (75) is located in the top member in front of pins (63) and is adapted to receive the upper end of locking spindle (105). The lower end of the locking spindle is spring-loaded in a hole in the bottom casing member. A shoe cover (86) overlies a circular disk-shaped shoe (85) which includes a pair of ramps (93). The shoe cover includes a pair of slots (96) through which the ramps extend. Pins (63) are aligned with the ramps (93) and slots (96). The rear end of a blade is adapted to be slid into the slot (55) to be chucked in the Evans device. The rear end of such blade must include a slot (132) that is adapted to engage locking spindle (105), and the side portions of the rear end of the blade ride up the ramps (93) until they abut against pins (63) as the slot (132) engages the locking spindle (105). Thus, the Evans device employs a sliding action of the blade to be chucked into slot (55) in order to securely attach the blade to the chucking device.

The Office Action states that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Michelson having at least one projection and an opposing receiving area that uses a ramp in view of Evans et al. to more firmly secure and align the two parts of the device in use." However, no elongated locking component is pivotally mounted on any receiving area of the device of the Evans patent so as to be moveable between a first position and a second position. Furthermore, no combination of the Evans and Michelson references teaches, suggests or

renders obvious a cervical plate having an elongated locking element that is pivotally mounted on a receiving area of a plate wherein one of the receiving area and the bottom of the locking element has a projection and the other of the receiving area and the bottom of the locking element has a recess which is positioned to receive the projection and thereby snap the locking element into the recess when the locking element is in the second position, as required by Applicant's claims 6-10, and 14 and 15, as amended. Furthermore, there is nothing in either the Michelson or the Evans patents which discloses, suggests or renders obvious a cervical plate having a pivotally mounted locking element which includes means offset from the pivot axis for grasping and pivoting the locking element, as required by Applicant's claims 6-11. There is likewise nothing in either the Michelson or the Evans patents which discloses, suggests or renders obvious a cervical plate having a pivotally mounted locking element which has a pair of recessed ramps on the bottom thereof to ride up over projections on the receiving area of the plate to permit the projections to snap into place in the recesses, as required by Applicant's claim 11 and his claims 16 and 17, as amended.

Applicant suggests that a person having ordinary skill in the art to which the invention relates would find it difficult (and therefore, not obvious) to combine the sliding locking feature of the Evans chuck with the pivoting locking feature of the Michelson cervical plate. However, even if such a combination of the Evans and Michelson patents were made, the resulting cervical plate would nevertheless employ the generally circular locking element of Michelson. Such a combination would not function as does Applicant's claimed cervical plate of claims 6-11 and 14-17, as amended, and consequently, Applicant's claimed cervical

plate would not be an obvious variant thereof. Applicant respectfully requests, therefore, that this §103(a) rejection of his claims be withdrawn, and that claims 6-11, and claims 14-17, as amended, be allowed.

Applicant respectfully submits that all of his claims, as now submitted, are patentable over the prior art references cited in the Office Action, including those made of record but not relied upon. Applicant requests therefore that the rejections of his claims be withdrawn and that claims 1-12 and claims 13-20, as amended, be allowed.

Respectfully submitted,



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